Number Sense Exam 097, 2/21/2020

(1) $2468 \div 9$ has a remainder of _____

(2) $321 \times 9 - 1 =$ _____

(3) $1216 \div 4 =$ _____

(4) $\frac{19}{400} =$ _____ (decimal)

(5) $2016 \div 3 =$ _____

(6) DCXX = _____ (Arabic Numeral)

(7) $12 + 4 \div 8 \times 6 =$ _____

(8) $317 - 713 =$ _____

(9) $4133 \div 5 =$ _____ (decimal)

*(10) $94 \times 85 - 76 =$ _____

(11) $8\frac{2}{3} - 4\frac{5}{6} =$ _____ (mixed number)

(12) $2 + 4 + 6 + 8 + 10 + \ldots + 22 =$ _____

(13) $13 \times 2121 =$ _____

(14) The sum of the first 4 odd prime numbers is ____

(15) CMIX − CDIV = _____ (Arabic Numeral)

(16) Which is larger: $\frac{7}{9}$ or 0.8? _____

(17) $48 \times 28 + 27 \times 28 =$ _____

(18) $108 \times 109 =$ _____

(19) 280 plus 30% of 320 is _____

*(20) $8 \times 15 \times 1947 =$ _____

(21) $12^3 =$ _____

(22) $3\frac{1}{6} - 6\frac{1}{3} =$ _____ (mixed number)

(23) If the area of a square is 72 sq. in., then the length of its diagonal is _____ in.

(24) 45 is $2\frac{1}{2}\%$ of _____

(25) If $f(x) = 2x^3 - 6x^2 + 6x - 2$, then $f(4) =$ _____

(26) $21 \times 336.7 =$ _____ (decimal)

(27) How many positive integral divisors does 40 have? _____

(28) $91 \times 55 =$ _____

(29) Find the units digit of 4^9. _____

*(30) $36089 \div 239 =$ _____

(31) $33 \times 91 =$ _____

(32) $112 \times 102 =$ _____

(33) $109 \times 107 =$ _____

(34) Given: $2, 7, 9, 16, 25, 41, k, 107, 173, \ldots$, $k =$ _____

(35) $666\frac{2}{3}\%$ of $333\frac{1}{3}$ is _____

(36) A regular hexagon with side length of $4''$ has a perimeter of _____ inches

(37) $15^2 + 45^2 =$ _____

(38) A square with a side length of $8\sqrt{5}$ has an area of _____

(39) If $f(x) = 4x^2 - 12x + 9$ then $f(9) =$ _____

*(40) $31.25\% \times 481 \div \frac{1}{16} =$ _____

(41) $\frac{4}{25} - \frac{11}{76} =$ _____

(42) If P is 20% of Q and Q is 25% of R, then P is what percent of R? _____ %

(43) The slope of the line $x + 2y = 4$ is _____

(44) The sum of the roots minus the product of the roots of $15x^2 - 13x + 10 = 0$ is _____

(45) The sides of a right triangle are integers. If one leg is 7 in., then the other leg is _____ in.

(46) $\frac{3}{14} =$ _____ %

(47) The arithmetic mean of $22, 43$, and 52 is _____

(48) The number of distinct diagonals in a regular octagon is _____

(49) If $7^2 + b^2 = 25^2$, then $|b| =$ _____

*(50) $12 \times 24 \times 36 \times 48 =$ _____

(51) The number of distinct diagonals of a regular nonagon is _____

(52) Find the 25th term of $3, 8, 13, 18, 23, \ldots$ _____

(53) $(3\mathrm{i} - 2) \div (3\mathrm{i} + 2) = a + b\mathrm{i}$. $b =$ _____

(54) $32_6 \div 5_6 \times 4_6 =$ _____$_6$

(55) The largest number of regions created by five intersecting lines is _____

(56) $1^2 + 2^2 + 3^2 + \ldots + 7^2 =$ _____

(57) If $\log 2 = .3$ and $\log 3 = .48$, then $\log 6 =$ _____

(58) The sum of the coefficients of the expansion $(4x - 2y)^3$ is _____

(59) $(3 - 2\mathrm{i})^2 = a + b\mathrm{i}$ and $a =$ _____

*(60) $87493 \div 12497 \times 625 =$ _____

(61) If $f(x) = 2x - 5$ and $g(x) = 4x + 3$, then $f(g(-1)) =$ _____

(62) If $9^{(2x-1)} = 3^{(x+2)}$, then $x =$ _____

(63) $\frac{\pi}{5}$ radians = _____ degrees

(64) $\sqrt{5329} =$ _____

(65) $6 + 2 + \frac{2}{3} + \ldots =$ _____

(66) 4 coins are tossed. What is that probability of getting all four tails? _____

(67) $12^6 \div 5$ has a remainder of _____

(68) $(x^3 + 2x^2 + x + 4) \div (x + 1)$ has a remainder of _____

(69) Find the sum of the squares of the roots of the equation $x^2 + 5x + 6 = 0$. _____

*(70) The surface area of a right cylinder with a radius of $3''$ and a height of $4''$ is _____ sq. in.

(71) The phase shift of $5\cos 4(x + 3) - 2$ is _____

(72) Let $f(x) = 2x^3 + 3x^2 + 2x + 3$.
Find $f''(-2)$. _____

(73) $\frac{1}{18} + \frac{1}{36} + \frac{1}{60} =$ _____

(74) $2(1!) + 3(2!) + 4(3!) + 5(4!) + 6(5!) =$ _____

(75) $111 \times 27 =$ _____

(76) Find x, if $\det \begin{bmatrix} 1 & -2 \\ x & 4 \end{bmatrix} = 5$. _____

(77) $\frac{1}{2} \times \frac{2}{3} \times \frac{4}{5} \times \frac{6}{7} =$ _____

(78) The vertical displacement of $y = 5\cos 4(x + 3) - 2$ is _____

(79) $1^3 + 2^3 + 3^3 + 4^3 + 5^3 + 6^3 + 7^3 =$ _____

*(80) $223121 \div (101 \times 11) =$ _____